

Safety Advisory Committee

February 20, 2015

1:30 – 3:00 PM

Minutes

Committee Member	Representing	Present
V. Potapenko, M. O. Leimer, J. Willen	Human Resources Advisors	
Blodgett, Paul M.	Environment, Health and Safety Division	
Bluhm, Hendrik	Chemical Sciences Division	X
Chernowski, John	Facilities Division	
Christensen, John N.	Earth Sciences Division	X
Franaszek, Stephen	Genomics Division	X
Giuntoli, Patricia	Computing Sciences Directorate	X
Greiner, Leo	Nuclear Science Division	X
Haber, Carl*	Physics Division	
Martin, Michael C.	Advanced Light Source Division	X
MacGowan, Elizabeth	Computing Sciences & Information Technology	X
Ravani, Shraddha	Life Sciences Division	X
Sauter, Nicholas	Physical Biosciences Division	X
Schmid, Andreas	Materials Sciences Division	X
Seidl, Peter	Accelerator Technology and Applied Physics Division; SAC Chair	X
Thomas, Patricia M.	Safety Advisory Committee Secretary	X
von der Lippe, Henrik	Engineering Division	X
Mary Sydney for	Environmental Energy Technologies Division	

Others Present: *David Brown (for Physics), Jim Floyd, Mike Kritscher, Glenn Kubiak, Peter Marietta, Bob Mueller, Mark Scott, Scott Taylor, Greta Toncheva, Kat Wentworth

Electrical Safety Discussion – Peter Seidl

For this meeting, the Committee focused on the Qualified Electrical Worker provisions of the proposed Electrical Safety Manual and ES&H Manual Chapter 8. The goal is for EHS and the Electrical Safety Committee to finish revising the requirements and have them signed by LBNL management by the end of March 2015. SAC Representatives received an assignment at the previous January electrical safety meeting to go back to their Divisions and collect comments on the proposed Qualified Electrical Worker provisions. Peter Seidl called upon each SAC Representative to present the highlights from their Divisions.

Accelerator Technology and Applied Physics Division – Peter Seidl

Discussions were held with each ATAP Program. It appears that the Fusion Science and Ion Beam Technology Program will be the most affected. The researchers work with a wide range of voltages and currents. Some test stands perform circuit breaker switching frequently. Most of the researchers in this Program may need to become qualified as QEW 1s.

Advanced Light Source – Mike Martin

Mike Martin met with the ALS electricians and Division Safety Manager Scott Taylor. They have questions about working on vacuum systems. The researchers access the vacuum systems frequently because they have ion pumps, gauges, and other equipment on them that need to be adjusted. They also have concerns about sample loading. They are concerned that researchers are developing a perception that the proposed requirements are too stringent.

Chemical Sciences Division – Hendrik Bluhm

The main concern is how servicing of lasers by vendors will be accomplished, when the service personnel may not be QEWs.

Response – Jim Floyd commented that EHS is testing a draft approach with Rick Kelley at JCAP on how to work with subcontractors. EHS will be ready to report on the progress in about a month and a half. JCAP also has vacuum chambers with open electrical connectors.

Earth Sciences Division – John Christensen

ESD anticipates they will need at least a couple of dozen QEWs, so they are asking for clarification of the process for becoming a QEW. The existing training seems to be focused on Facilities electricians rather than researchers. They are concerned about the time and cost of QEW training and would like to see an efficient combination of on-line and hands-on training. They want a grace period until the QEW training is developed and available. ESD is also involved in the design and fabrication of equipment. They want a design approval process that works smoothly and results in timely approvals.

Response – Jim Floyd responded that there will be an implementation phase-in period. Mark Scott responded that most people who perform electrical work have the educational background and experience to be eligible to become QEWs. If work is done on stepped-down voltages, the required QEW level is not defined by the supply side. Jim Floyd added that EHS is recruiting researchers to help develop the QEW training. Bob Mueller added that hazardous voltage work should not be done alone. It is better to have several sets of eyes look at the work. The different QEW levels are somewhat analogous to the different Radiation Worker levels that depend on the hazard of the work.

Nuclear Science Division – Leo Greiner

There are two distinct types of work at NSD, the work at the 88" Accelerator, which can involve 480V, and the lower hazard work in the satellite labs in Bldg. 70. NSD wants more information on the training thresholds and requirements. They can have cryogenics, high and low voltage, and line voltages hazards all involved in a single experiment. Researchers have questions about whether they can service their equipment. Line managers will be making decisions about when they need a QEW. They are concerned that they could inadvertently break the rules. Mike Johnson responded for the 88" Accelerator work. The 88" Accelerator is over 50 years old. They have about 10-15 people who do QEW work. There are questions about the work mechanical technicians can do. There are some people with a lot of experience but not formal education.

Response – Mark Scott responded that EHS will rely on Line Management to document the experience of workers who want to become QEWs. We need to make sure that people doing electrical work can recognize the hazards. The Electrical Safety Committee may need to provide more details about the qualification requirements.

Physics Division – David Brown

Physics Division needs to design and fabricate customized equipment. They probe powered circuits to test "hot" boards with stepped-down voltage. About 90% are below the hazards threshold. The people doing this work have been taking the Basic Electrical Hazards class. For custom equipment, someone needs to determine the stored energy. They have one Electrical Safety Advocate.

Response – Jim Floyd commented that Line Management will need to build the expertise and infrastructure needed to implement the requirements. Henrik von der Lippe commented that most of the work described is low hazard and performed by knowledgeable people. They need to think about the hazards and exposures and build the controls into Work Planning and Control Activities. John Christensen advised that the number of QEWs should not be minimized. Mark Scott commented that we need to validate that the researchers have the ability to do the work. It doesn't make sense to bring in people who don't know the equipment.

Information Technology Division – Betsy MacGowan

They have vendors who work on Uninterruptable Power Supply (UPS) systems. They work on desktop systems less than 50 volts. NERSC has hired two electricians, and it has made a huge difference. NERSC is located in Oakland, so it is more difficult to access LBNL resources.

Life Sciences Division -- Shraddha Ravani and Peter Marietta

Their researchers typically use, rather than build, electrical equipment. They are concerned about QEW availability off-site (Potter Street). They have questions about whether they can have task-specific QEWs. They also have questions about supervising Mode 2 work by vendors. Non-electricians are having difficulty understanding the proposed requirements.

Physical Biosciences – Nick Sauter

Their researchers are mostly end-users. There is one person who builds equipment. They have a list of questions, and are concerned about the lack of clarity of the proposed requirements. They need to know more about the process for vendor qualification and approval for servicing equipment. They also have questions about resetting circuit breakers.

Materials Sciences – Andreas Schmid

MSD is a large Division, with about 500 people. They have ultra-precision equipment that requires exact positioning of samples. They have non-commercial systems assembled from components. Some of the work may require a QEW2. Vacuum equipment is often custom-made. They have questions about requirements for servicing of equipment. Users need to change samples in heated sample holders. They have sputter guns and targets. They have concerns that perceived over-regulation could affect the safety culture and drive work underground. There are concerns about resources. About 50-100 people may need to be QEW 1 or 2.

Genomics Division – Steve Franaszczek

Work at the Joint Genome Institute involves life scientists and computer programmers. They use mostly plug-in equipment. They have one QEW that does all the LOTO and electrical work, and is also the facility manager.

Engineering Division – Henrik von der Lippe

Engineering Division personnel work on all types of equipment. The engineers and technicians want to be clear on what they can do. The Electrical Safety Manual will help them work safely. They are looking at their needs for training. Work Planning and Control will help in applying the rules to the work. They do 12 KV switching at the 88" Cyclotron. They need to know the hazards to know when and how to apply the second person requirement. The proposed changes and WPC have been good at getting people to start thinking more about their hazards.

Response and Summary – Mark Scott commented that EHS and SAC are getting involved in clearing up misperceptions and reactions. We are trying to achieve the right balance between the level of detail needed and the size of the manual. There will be a need to spend more time explaining the requirements. The intention is to provide clarity and consistency, and build knowledge.

There are different requirements for hazard levels requiring a standby person or safety watch. The second person (standby) needs to have CPR and First Aid training, and know how to respond to an emergency and summon help. A safety watch person needs to be a QEW.

Jim Floyd commented that the Electrical Safety Committee will work towards producing a final draft of the requirements for the March 6 Safety Advisory Committee meeting. As with any new requirements, we can expect some confusion for a while. Electrical Safety Advocates will help to socialize the requirements.

Glenn Kubiak thanked everyone for their feedback, and invited SAC Representatives to be partners in creating plans to mitigate special cases. The proposed requirements are an opportunity to prevent shocks.

Henrik von der Lippe described the path forward. The requirements should be completed and approved in March, the hazard control measures incorporated into Work Planning and Control in April, and the QEW2 training available by June. The QEW 1 training needs to be customized. SAC Representatives, Electrical Safety Committee members, and interested researchers are invited to participate in developing the QEW1 training. Mark Scott added that we want people who take the training to feel that the training was worthwhile.

Directorate/Operations Safety Culture Working Group – Kat Wentworth

The Safety Culture Working Group is looking for visible and meaningful ways to support the change process. The Safety Culture website could host an on-line discussion forum on electrical safety. The Safety Culture Working Group is recruiting new members. People who are interested in participating should contact Kat Wentworth.

Response – Bob Mueller recommended that people also look at the Electrical Safety website.

Action Needed: SAC Representatives should sent written summaries of their Division feedback to Peter Seidl, if they have not already done this.

The meeting was adjourned at 3:00 PM
Respectfully submitted, Patricia M. Thomas, SAC Secretary